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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/361,610	07/27/1999	AKIO KOBAYASHI	990864	5723

23850 7590 02/17/2004

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EXAMINER

VILLECCO, JOHN M .

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 02/17/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/361,610

Applicant(s)

KOBAYASHI ET AL.

Examiner

John M. Villecco

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-21 and 24-27 is/are rejected.
- 7) ☒ Claim(s) 22,23,28 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION III

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 24, 2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 18 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Shoda et al. (U.S. Patent No. 6,429,898).**

4. Regarding *claim 18*, Shoda discloses an imager that produces image signals having a high dynamic range. The imager includes an imager (551) which includes a plurality of vertical transfer registers (12) with a plurality of transfer areas, a horizontal transfer register (14) connected to the vertical transfer registers, a plurality of pixels (10), and a timing generator (45). Shoda discloses a fifth embodiment which outputs odd and even rows and combines the signals

Art Unit: 2612

from the odd and even rows to form a high dynamic range image signal. The timing generator (45) generates timing signals for the odd and even rows having different exposure times. Since the even and odd rows are being read out, the second readout of pixels is being transferred to a vacant transfer area in which no electric charge is present. The charges on the vertical transfer register are read out from the vertical transfer register (12) and then out of the horizontal transfer register (14). The second light receiving elements, in this case either the odd or even rows, are intermittently present in the vertical direction. Additionally, since the imager is reading out odd and even rows, the first and second electric charges are alternately arranged on the vertical transfer register. Shoda also discloses a series of circuits comprised of delays (552), adders (553), and lookup devices (555) for adding the signals from the odd and even lines to form a high dynamic range image signal for each of the pixels of the imager. See Figures 1 and 13, and column 10, line 38 to column 11, line 3.

5. **Claim 24** is considered substantively equivalent to claim 18. Please see the discussion of claim 18 above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoda et al. (U.S. Patent No. 6,429,898).**

Art Unit: 2612

8. Regarding *claim 27*, as mentioned above in the discussion of claim 24, Shoda discloses all of the limitations of the parent claim. However, Shoda fails to explicitly state that the system includes a monitor for displaying the high dynamic range image signal. Official Notice is taken as to the fact that it is well known in the art to use a monitor to display the images generated by an imager. This feature allows a user view an image that he/she has captured. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a monitor so a user can view the images they have captured.

9. **Claims 19, 20, 21, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoda et al. (U.S. Patent No. 6,429,898) in view of Deguchi et al. (U.S. Patent No. 5,463,421).**

10. Regarding *claim 19*, as mentioned above in the discussion of claim 18, Shoda discloses all of the limitations of the parent claim. Additionally, Shoda discloses the second light receiving elements equal the first light receiving elements (col. 6, line 34). However, Shoda fails to explicitly state that the second electric charge is read out at the same time or later than the vertical transfer of the first electric charge is started. However, Deguchi discloses that it is well known in the art to read out all of the even field or all of the odd field before reading the other field out. See Figure 1. If this were done in Shoda, the transfer of the second charge would be read out after the start of the transfer of the first electric charge. Since this is a well known of reading out an imager sensor, it would have been obvious to one of ordinary skill in the art to readout the imager of Shoda in a similar manner.

Art Unit: 2612

11. As for *claim 20*, Deguchi discloses that all of the even or odd fields can be read out before, the other. Therefore, if the entire column of pixel elements were designated N, then the first pixel signals would move a distance N before the second signal is read out.

12. With regard to *claim 21*, Official Notice is taken as to the fact that it is well known in the art to use a monitor to display the images generated by an imager. This feature allows a user view an image that he/she has captured. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a monitor so a user can view the images they have captured.

13. *Claim 25* is considered substantively equivalent to claim 19. Please see the discussion of claim 25 above.

14. *Claim 26* is considered substantively equivalent to claim 20. Please see the discussion of claim 20 above.

Allowable Subject Matter

15. **Claims 22, 23, 28, and 29 are objected to** as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter:

Regarding *claims 22 and 28*, the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest a third exposure and a fourth exposure performed using a shutter member arranged in front of the imager in a manner as discussed in the claims.

Art Unit: 2612

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (For either formal or informal communications intended for entry. For informal or draft communications, please label "**PROPOSED**" or "**DRAFT**")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Villecco whose telephone number is (703) 305-1460. The examiner can normally be reached on Monday through Thursday from 7:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber, can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service desk whose telephone number is (703) 306-0377.



JMV
1/31/04



WENDY R. GARBER
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